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TELECOPIER TRANSMISSION COVER SHEET

11-09-2004	S. N. 10/658,267	1-703-308-7751
Date	File	Telecopier Number

To: Z. Moguss

OIPE Customer Service Center

From: Walter Ottesen

Number of Sheets (including cover sheet) Twenty-Eight (28)

Message: A petition to withdraw a holding of abandonment is transmitted herewith together with: (i) specification attached to declaration duly signed by applicants; (ii) statement by attorney that papers attached to declaration are a copy of those filed in the PTO to get a filing date; (iii) transmittal of declaration for filing under 37 CFR 1.53(d); (iv) itemized date-stamped receipt; (v) copy of cancelled check for $130.00 showing payment of surcharge set forth in 37 CFR 1.16(e); and, (vi) copy of notice of abandonment under 37 CFR 1.53(f) or (g).

Respectfully submitted,

Walter Ottesen
Reg. No. 25,544

Certificate of Transmission

I hereby certify that this correspondence is being facsimile transmitted to the Patent and Trademark Office (Fax No. 703-308-7751) on November 9, 2004.

Walter Ottesen

In the United States Patent and Trademark Office

Applicant: Helmut Schlessmann Attorney Docket: A 91825

Patent Application
Serial No: 10/658,267

Filed: September 10, 2003

For: Attachment Pin for an
Exhaust-Gas Muffler

Petition to Withdraw Holding of Abandonment under 37 CFR 1.181(a)

Commissioner for Patents and Trademarks
P.O. Box 1450
Alexandria, Virginia 22313-1450

Dear Sir:

This application became abandoned because of applicant's failure to timely file a proper reply to the Office notice to file missing parts of nonprovisional application mailed on December 17, 2003 as noted in the notice of abandonment mailed on November 4, 2004.

The applicant had already complied with the requirements of said notice of December 17, 2003 by postfiling the following at the OIPE customer window on October 14, 2003:

(a) Specification attached to declaration duly signed by applicant;

(b) Statement by attorney that papers attached to declaration are a copy of those filed in the Patent and Trademark Office to get a filing date;

(c) Transmittal of declaration for filing under 37 CFR 1.53(d); and,

(d) A check in the amount of $130.00 to cover the surcharge set forth in 37 CFR 1.16(e).

True copies of the items (a) to (c) as filed originally on October 14, 2003 are submitted herewith together with an itemized receipt date stamped on October 14, 2003 by OIPE at the customer window of the Office and a copy of cancelled check no. 5266 showing that the surcharge of $130.00 referred to in item (d) above was received by the PTO.

A copy of the notice of abandonment under 37 CFR 1.53(f) or (g) is also submitted herewith.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

The Commissioner is hereby authorized to charge Deposit Account 15-0773 for any fee required with respect to this petition.

In view of the foregoing, applicant's attorney respectfully requests that this petition be granted and that the notice of abandonment be withdrawn.

Respectfully submitted,

Walter Ottesen
Reg. No. 25,544

Walter Ottesen
Patent Attorney
P.O. Box 4026
Gaithersburg, Maryland 20885-4026

Phone: (301) 869-8950

Date: November 8, 2004

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY DOCKET NO./TITLE
10/658,267	09/10/2003	Helmut Schlessmann	A 91825

CONFIRMATION NO. 4017

ABANDONMENT/TERMINATION LETTER

OC000000014282083

OC000000014282083

Walter Ottesen
Patent Attorney
P.O. Box 4026
Gaithersburg, MD 20885-4026

Date Mailed: 11/04/2004

NOTICE OF ABANDONMENT UNDER 37 CFR 1.53 (f) OR (g)

The above-identified application is abandoned for failure to timely or properly reply to the Notice to File Missing Parts (Notice) mailed on 12/17/2003.

- No reply was received.

A petition to the Commissioner under 37 CFR 1.137 may be filed requesting that the application be revived.

Under 37 CFR 1.137(a), a petition requesting the application be revived on the grounds of **UNAVOIDABLE DELAY** must be filed promptly after the applicant becomes aware of the abandonment and such petition must be accompanied by: (1) an adequate showing of the cause of unavoidable delay; (2) the required reply to the above-identified Notice; (3) the petition fee set forth in 37 CFR 1.17(l); and (4) a terminal disclaimer if required by 37 CFR 1.137(d).

Under 37 CFR 1.137(b), a petition requesting the application be revived on the grounds of **UNINTENTIONAL DELAY** must be filed promptly after applicant becomes aware of the abandonment and such petition must be accompanied by: (1) a statement that the entire delay was unintentional; (2) the required reply to the above-identified Notice; (3) the petition fee set forth in 37 CFR 1.17(m); and (4) a terminal disclaimer if required by 37 CFR 1.137(d).

Any questions concerning petitions to revive should be directed to the "Office of Petitions" at (703) 305-9282.Petitions should be mailed to: Mail Stop Petitions, Commissioner for Patents, P.O. Box 1450, Alexandria VA 22313-1450.

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*A copy of this notice **MUST** be returned with the reply.*

Z-Mogucs

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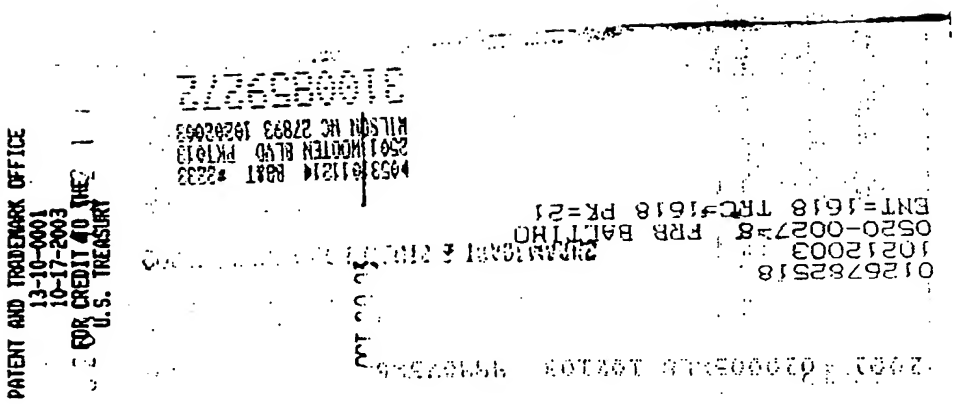
Initial Patent Examination Division (703) 308-1202
PART 2 - COPY TO BE RETURNED WITH RESPONSE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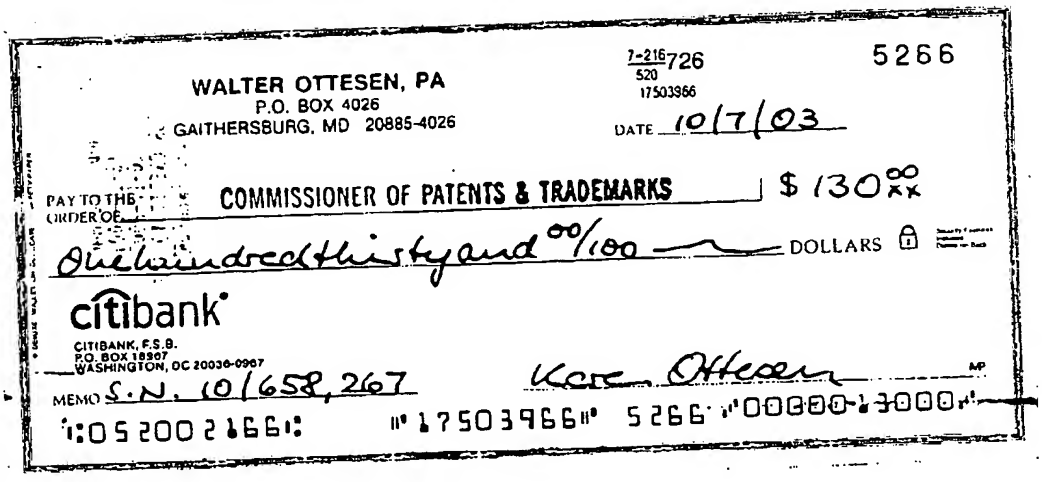
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PLEASE DATE STAMP AND RETURN

Applicant(s): Helmut Schlessmann

Patent Application
Serial No: 10/658,267

Attorney Docket No: A 91825

Filed: September 10, 2003

Title of Invention: Attachment Pin for an Exhaust-Gas Muffler

THE FOLLOWING MARKED (X) ARE SUBMITTED HEREWITH:

Amendment	( )	Applic. (p. 1 to 14) att. to Decl.	( )
Assignment	(X)	Statement by Attorney that Papers Attached to Declaration are...	(X)
Check for $130.00	(X)	Specification attached to Decl.	(X)
Check for $40.00	(X)	Certified copy of German appl.	( )
Prel. Amendment	( )	Transmittal of Certified Copy	( )
Drawings(s) ___ Sheet(s)	( )	Amendment under 37 CFR 1.312	( )
Transmittal of Formal Drwg(s)	( )	Information Disclosure Statement	( )
Response	( )	Fil. of Decl. under 37 CFR 1.53(d)	(X)
Letter	( )	Transmittal of Assignment	(X)
Transmittal Form (in duplicate)	( )	Request f. Corrected Filing Receipt	( )
		Issue Fee Transmittal Form	( )
		Change of Correspondence Address	( )

In the United States Patent and Trademark Office

Applicant: Helmut Schlessmann Attorney Docket: A 91825

Patent Application
Serial No: 10/658,267

Filed: September 10, 2003

For: Attachment Pin for an
Exhaust-Gas Muffler

Transmittal of Declaration for Filing under 37 CFR 1.53(d)

Commissioner for Patents and Trademarks
P.O. Box 1450
Alexandria, Virginia 22313-1450

Attention: **Mail Stop Missing Parts**

Dear Sir:

To avoid abandonment under 37 CFR 1.53(d), the applicant herewith submits the declaration in the above-identified application duly signed. A check in the amount of $130.00 to cover the surcharge as set forth in 37 CFR 1.16(e) is also enclosed in order to prevent abandonment of the application.

The Commissioner is herewith authorized to charge any deficiency in the fee to deposit account no. 15-0773.

Respectfully submitted,

Walter Ottesen
Reg. No. 25,544

Walter Ottesen
Patent Attorney
P.O. Box 4026
Gaithersburg, Maryland 20885-4026

Phone: (301) 869-8950

Date: October 9, 2003

In the United States Patent and Trademark Office

Applicant: Helmut Schlessmann Attorney Docket: A 91825

Patent Application
Serial No: 10/658,267

Filed: September 10, 2003

For: Attachment Pin for an
Exhaust-Gas Muffler

Statement by Attorney that Papers Attached to Declaration are a Copy of those Filed in the Patent and Trademark Office to Get a Filing Date

Commissioner for Patents and Trademarks
P.O. Box 1450
Alexandria, Virginia 22314-1450

Dear Sir:

I, Walter Ottesen, state that I am the attorney for this application and that I have reviewed and found the specification (pages 1 to 14) and four sheets of drawing (FIGS. 1 to 4) as shown in my files to be the papers attached to the declaration of Helmut Schlessmann for Attachment Pin for an Exhaust-Gas Muffler which accompanies this statement and I declare that these papers attached to the declaration are a true copy of the specification and any amendment thereto which I filed in the Patent and Trademark Office in order to obtain a filing date for this application on September 10, 2003.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so

made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Respectfully submitted,

Walter Ottesen
Reg. No. 25,544

Walter Ottesen
Patent Attorney
P.O. Box 4026
Gaithersburg, Maryland 20885-4026

Phone: (301) 869-8950

Date: October 9, 2003

Attorney Docket No. A 91825

Declaration and Power of Attorney for Patent Application

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name.

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled: Attachment Pin for an Exhaust-Gas Muffler, the specification of which is attached hereto.

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims.

I acknowledge the duty to disclose information which is material to the examination of this application in accordance with Title 37, Code of Federal Regulations, §1.56(a).

I hereby claim foreign priority benefits under Title 35, United States Code, §119, of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on which priority is claimed:

Prior Foreign Application(s)			Priority Claimed	
102 41 883.7 (Number)	Federal Republic of Germany (Country)	10 Sep 02 Date Filed	X Yes	___ No
___ (Number)	___ (Country)	___ Date Filed	___ Yes	___ No

As a named inventor, I hereby appoint the following attorney to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith:

Walter Ottesen
Reg. No. 25,544

Direct all telephone calls to Walter Ottesen at telephone no. (301) 869-8950 and address all correspondence to:

Walter Ottesen
Patent Attorney
P.O. Box 4026
Gaithersburg, Maryland 20885-4026

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Full name of sole or first inventor Helmut Schlessmann

Inventor's signature _____ Date 27.03.03

Residence 54595 Prüm, Federal Republic of Germany

Country of Citizenship Federal Republic of Germany

Post Office Address Wenzelbachstrasse 86, 54595 Prüm
Federal Republic of Germany

Attorney Docket No: A 91825

Attachment Pin for an Exhaust-Gas Muffler

Background of the Invention

In portable handheld work apparatus driven by an internal combustion engine, the hot exhaust gases of the engine are guided through an exhaust-gas muffler. Such work apparatus include chain saws, brushcutters, suction/blower apparatus or the like. The exhaust-gas muffler assumes considerable temperatures. An exhaust-gas catalytic converter, which is possibly integrated into the exhaust-gas system, brings about an after burning of incompletely combusted exhaust-gas components. A considerable increase of the temperature level in the exhaust-gas system can, under circumstances, take place because of the after burning in the exhaust-gas catalytic converter.

An exhaust-gas muffler, which is equipped with an exhaust-gas catalytic converter as needed, is affixed to any desired apparatus part of the portable handheld work apparatus with one or several attachment pins. The attachment pins can be configured as threaded fasteners, stud bolts or the like and are especially subjected to mechanical vibration loads as well as thermal loads. The attachment pins define a thermal bridge between the exhaust-gas muffler, which is hot during operation and the comparatively cooler apparatus part. Temperature fluctuations in the exhaust-gas muffler, for example, because of frequently changing power outputs or starting and stopping of the engine can lead to a loosening of the attachment pins especially in combination with vibration loads resulting from the engine operation. When the apparatus part, which receives the attachment pins, is configured of a light metal, especially

magnesium or a corresponding plastic material, a high heat entry via the attachment pin can lead to a creeping of the material of the apparatus in the region of the attachment pin. The creeping of the material receiving the attachment pin can, likewise, lead to an unwanted automatic loosening of the exhaust-gas muffler attachment.

For a reliable attachment of an exhaust-gas muffler, configurations of attachment pins are known wherein a comparatively long threaded section is provided at the apparatus end. A relatively large transition surface can be provided for the introduced heat via the long threaded section threadably engaged in the housing part. During operation, a comparatively low temperature level is present on the end of the threaded section facing away from the exhaust-gas muffler. At least in this region, a permanently secure threaded connection can be obtained especially in association with an adhesive.

A sufficient amount of structural space is not always available for accommodating the correspondingly long threaded section. A correspondingly long configuration of the attachment pin can, under certain circumstances, not lead to the desired success especially for a high temperature level caused by an exhaust-gas catalytic converter. An adhesive locking of the threaded fastener leads to a cost intensive assembly operation. Creeping of the material, which accommodates the threaded section, cannot be avoided under some circumstances, at least not in the hotter region of the threaded section.

Summary of the Invention

It is an object of the invention to provide an attachment

pin for an exhaust-gas muffler which is improved in such a manner that a temperature stable fixation of the exhaust-gas muffler is possible with simple means.

The attachment pin arrangement of the invention is for attaching an exhaust-gas muffler to an apparatus part of a portable handheld work apparatus driven by an internal combustion engine. The attachment pin arrangement includes: an attachment pin extending between the housing part and the muffler; and, the attachment pin including at least a partially exposed region between the housing part and the muffler and the region defining a cooling surface.

According to a feature of the invention, an at least partially exposed region having a cooling surface is provided on the attachment pin between the exhaust-gas muffler and the apparatus part. At least part of the heat, which is introduced from the exhaust-gas muffler into the attachment pin, can be conducted away by means of radiation and/or convection via the cooling surface in the exposed region. The remaining heat flow is correspondingly reduced and is introduced into the apparatus part via the attachment pin by means of heat conduction. This remaining heat flow leads to a correspondingly reduced temperature level in the region of the receptacle of the attachment pin. The section of the attachment pin, which is accommodated by the apparatus part, can be configured to be correspondingly short which leads to an overall reduced volume of structure. A creeping of the material, which accommodates the attachment pin, can be reliably avoided. An additional adhesive locking of a threaded section, which is held in the apparatus part, can be omitted depending upon circumstances.

According to another feature of the invention, at least

one collar is provided to form a cooling surface. This collar extends peripherally about the attachment pin. The peripheral collar avoids a weakening of the cross section of the attachment pin and leads with simple means to a large area cooling surface which therefore is effective. The peripherally-extending collar can also be configured as a stop for an attachment pin to be threadably engaged in the apparatus part. A defined assembly position results during assembly without having to do more. A surface contact engagement of the peripherally-extending collar on the apparatus part leads to an areal introduction of remaining heat energy into the apparatus part. Unwanted temperature peaks are avoided with the areal contact. Alternatively, or even in combination with a peripherally-extending collar, a slot is provided extending about the attachment pin. A comparatively effective cooling surface can be obtained with simple means via the slot. A lesser cross section in the attachment pin results in this region in dependence upon the selected depth of the slot. The reduced cross section leads effectively to a reduced heat transfer through the attachment pin from the exhaust-gas muffler in the direction of the apparatus part accommodating the attachment pin. Here, it is practical to arrange a slot between a first collar and a second collar. The effect of large area cooling surfaces can thereby be combined with simple means with the action of the slot which limits the heat transfer.

The cooling surfaces can be made available by a component, which is structured correspondingly on the surface, for example, in the form of a sleeve which can be pushed onto the attachment pin. According to another feature of the invention,

the peripherally-extending collar is formed as one piece with the attachment pin. In addition to reduced manufacturing costs, a good heat transfer results from the core of the attachment pin into the peripherally-extending collar. The correspondingly high temperature level in the collar leads to a correspondingly high proportionate heat output.

In an advantageous further embodiment, the attachment pin has at least one threaded section and the peripherally-extending collar is configured as a hexagon. In addition to the function as a cooling surface, the hexagonally-shaped collar can function as a projection which can be grasped by a work tool for imparting rotation. Via the hexagon, the attachment pin can be rotated in a simple manner into a corresponding threaded receptacle of an apparatus part. The attachment pin can be counter held with a suitable tool for tightening or loosening a holding nut for the exhaust-gas muffler.

To further reduce the temperature level in the region of the apparatus part receiving the attachment pin, it can be practical to provide a heat insulating spacer means between a holding flange of the exhaust-gas muffler and a collar facing toward the holding flange. With the overall reduced introduction of heat from the exhaust-gas muffler into the attachment pin, the temperature level in this region is overall reduced. To obtain the same effect, it can also be practical to mount a heat insulating spacer means between the holding flange and a holding nut threadably engaged on the attached pin. One or even both spacer means can be correspondingly configured to have a large area. The holding flange is reliably held while avoiding excessive introduction of heat.

For this purpose, the spacer means is configured as supporting washer, especially made of titanium or a heat-resistant duroplast. The suggested material selection leads to a high mechanical supporting capacity in combination with a low heat introduction into the attachment pin. The attachment pin itself can be made of steel. Steel has a high mechanical supporting capacity even at increased temperature levels. The thermal conductivity, which is disadvantageous in the present case, is adequately low with a corresponding selection of steel. With the selection of a heat resistant steel, a comparatively low material cross section can be selected whereby the unwanted heat transfer from the exhaust-gas muffler in the direction of the apparatus part, which receives the attachment pin, can be further reduced.

In a practical further embodiment, one or both spacer means have a centering collar for the holding flange of the exhaust-gas muffler. In addition to a mechanical attachment which can be subjected to load, a precisely defined assembly position of the exhaust-gas muffler is achieved. Even with thermal or mechanical settlement, the holding flange cannot come in direct contact with the attachment pin. In this way, a good thermal insulation between the exhaust-gas muffler or its holding flange and the attachment pin is permanently ensured.

Brief Description of the Drawings

The invention will now be described with reference to the drawings wherein:

FIG. 1 is a perspective view of a portion of a work apparatus having an exhaust-gas muffler including an exhaust-gas catalytic converter and two attachment pins having respective cooling surfaces;

FIG. 2 is a side elevation view of the arrangement of FIG. 1 with a mounted exhaust-gas muffler;

FIG. 3 is a detail enlargement of the arrangement of FIG. 2 in the region of the attachment pin; and,

FIG. 4 is an enlarged detail view of a variation of the arrangement of FIG. 3 with support washers each having a centering collar.

Description of the Preferred Embodiments of the Invention

FIG. 1 shows a perspective cutaway view of a portable handheld work apparatus 5 driven by an internal combustion engine (not shown). Here, the work apparatus is a motor-driven chain saw by way of example. The work apparatus 5 can also be a brushcutter, a suction/blower apparatus or the like. An exhaust-gas muffler 2 is provided for directing away the exhaust gases of the engine and to attenuate noise. The exhaust-gas muffler includes an exhaust-gas catalytic converter 3 in the embodiment shown.

The work apparatus 5 includes an apparatus part 4 which, in the embodiment shown, is a combined crankcase and cooling fan housing for the engine made of a magnesium die casting. The apparatus part 4 can be any part of the work apparatus 5 and can be made, for example, of aluminum, plastic or the like.

The exhaust-gas muffler can be attached to the apparatus part 4 by means of attachment pins 1. The attachment pins 1 are all configured the same and have a threaded section 12 at the apparatus end and a threaded section 11 at the exhaust-gas muffler end. One of the two attachment pins 1 shown is shown threadably engaged with its threaded section 12 in a threaded protuberance 19. The threaded protuberance 19 is configured as one piece with the apparatus part 4. The attachment pins 1

each have first and second peripherally-extending collars (8, 9) approximately midway along the length thereof and a slot 10 is arranged between the two collars. The two peripherally-extending collars (8, 9) are configured as one piece with the attachment pins 1 and are configured as hexagonals 13. In the mounted state, the apparatus-end collar 9 lies in areal contact against the threaded protuberance 19.

The exhaust-gas muffler 2 includes a holding flange 14 for fixing on the attachment pin 1. The holding flange 14 can be pushed onto the muffler-end threaded section 11 of the attachment pin 1. Two support washers 18 can be pushed onto the threaded section 11. The holding flange 14 lies between the two support washers 18 in the assembled state. For fixing the exhaust-gas muffler 2, a holding nut 16 is provided which can be threadably mounted on the free end of the threaded section 11.

FIG. 2 shows the arrangement of FIG. 1 in a side elevation view. The exhaust-gas muffler 2 having the exhaust-gas catalytic converter 3 is fixed on the apparatus part 4 by means of the attachment pins 1. The apparatus part 4 of the work apparatus 5 includes a cooling air spiral 21 for a fan wheel (not shown) which is rotatably journalled about a rotational axis 20. An at least partially exposed region 6 is provided on the attachment pin 1 between the holding flange 14 of the exhaust-gas muffler 2 and the threaded protuberance 19 of the apparatus part 4.

FIG. 3 shows the arrangement of FIG. 2 in the region of the attachment pin 1. The attachment pin 1 is provided with cooling surfaces 7 in the region of the exposed region 6. The

cooling surfaces 7 are formed by the apparatus-end peripherally-extending collar 9, the muffler-end peripherally-extending collar 8 as well as by the slot 10 which lies therebetween. The depth of the slot 10 is selected in such a manner that the cross section of the attachment pin 1 at the slot base corresponds approximately to its cross section in the region of the threaded sections (11, 12). Depending upon the application, a deeper or less deep slot can be practical. For configuring the cooling surfaces 7, the arrangement of a corresponding profile sleeve can be practical which can be pushed onto the attachment pin 1.

The apparatus-end threaded section 11 is threadably engaged in the threaded protuberance 19 and is optionally provided with an adhesive lock. The apparatus-end collar 9 lies in surface contact against the threaded protuberance 19.

The holding flange 14 of the exhaust-gas muffler 2 (FIGS. 1 and 2) is held between the muffler-end collar 8 and a holding nut 16 threadably engaged on the muffler-end threaded section 12. A heat-insulating spacer (15, 17) in the form of a support washer 18 is mounted between the holding flange 14 and the collar 8 as well as between the holding flange 14 and the holding nut 16. The heat-insulating spacers (15, 17) are made of titanium or a heat-resistant duroplast. The attachment pin 1 is made of steel.

In lieu of the threaded connection of the attachment pin 1 with the threaded protuberance 19 as shown, a pressed-in attachment pin as a stud bolt or other suitable configuration can be practical.

FIG. 4 shows a variation of the arrangement of FIG. 3 wherein the spacers (15, 17) in the form of support washers 18

face each other and each has a circular-round center collar 22. The center collar 22, in each case, engages without play in a bore of the holding flange 14 of the exhaust-gas muffler 2. The exhaust-gas muffler 2 is then not in direct contact with the attachment pin 1.

It is understood that the foregoing description is that of the preferred embodiments of the invention and that various changes and modifications may be made thereto without departing from the spirit and scope of the invention as defined in the appended claims.

What is claimed is:

1. An attachment pin arrangement for attaching an exhaust-gas muffler to an apparatus part of a portable handheld work apparatus driven by an internal combustion engine, the attachment pin arrangement comprising:

an attachment pin extending between said housing part and said muffler; and,

said attachment pin including at least a partially exposed region between said housing part and said muffler and said region defining a cooling surface.

2. The attachment pin arrangement of claim 1, wherein said attachment has a collar extending peripherally about said attachment pin and said collar defines a cooling surface.

3. The attachment pin arrangement of claim 2, said attachment pin having a slot extending peripherally about said attachment pin and said slot forming at least part of said cooling surface.

4. The attachment pin arrangement of claim 2, wherein said collar is a first collar and said attachment pin arrangement further comprises a second collar adjacent said first collar.

5. The attachment pin arrangement of claim 4, wherein said attachment pin and said first and second collars are conjointly configured as a single integral piece.

6. The attachment pin arrangement of claim 2, wherein said

attachment pin has at least one threaded section for threadably engaging one of said apparatus part and said muffler; and, said collar is configured to have a shape of a hexagon.

7. The attachment pin arrangement of claim 2, wherein said muffler has a holding flange and said attachment pin engages said muffler at said holding flange; and, said attachment pin arrangement further comprises a heat insulating spacer disposed between said holding flange and said collar.

8. The attachment pin arrangement of claim 1, wherein said muffler has a holding flange and said attachment pin engages said muffler at said holding flange; said attachment pin arrangement further comprises: a holding nut threadably engaging said attachment pin and a heat insulating spacer mounted between said holding flange and said holding nut.

9. The attachment pin arrangement of claim 8, wherein said spacer is configured as a support washer.

10. The attachment pin arrangement of claim 9, wherein said support washer is made of titanium.

11. The attachment pin arrangement of claim 9, wherein said support washer is made of a heat resistant duroplast.

12. The attachment pin arrangement of claim 7, wherein said spacer has a centering collar for said holding flange.

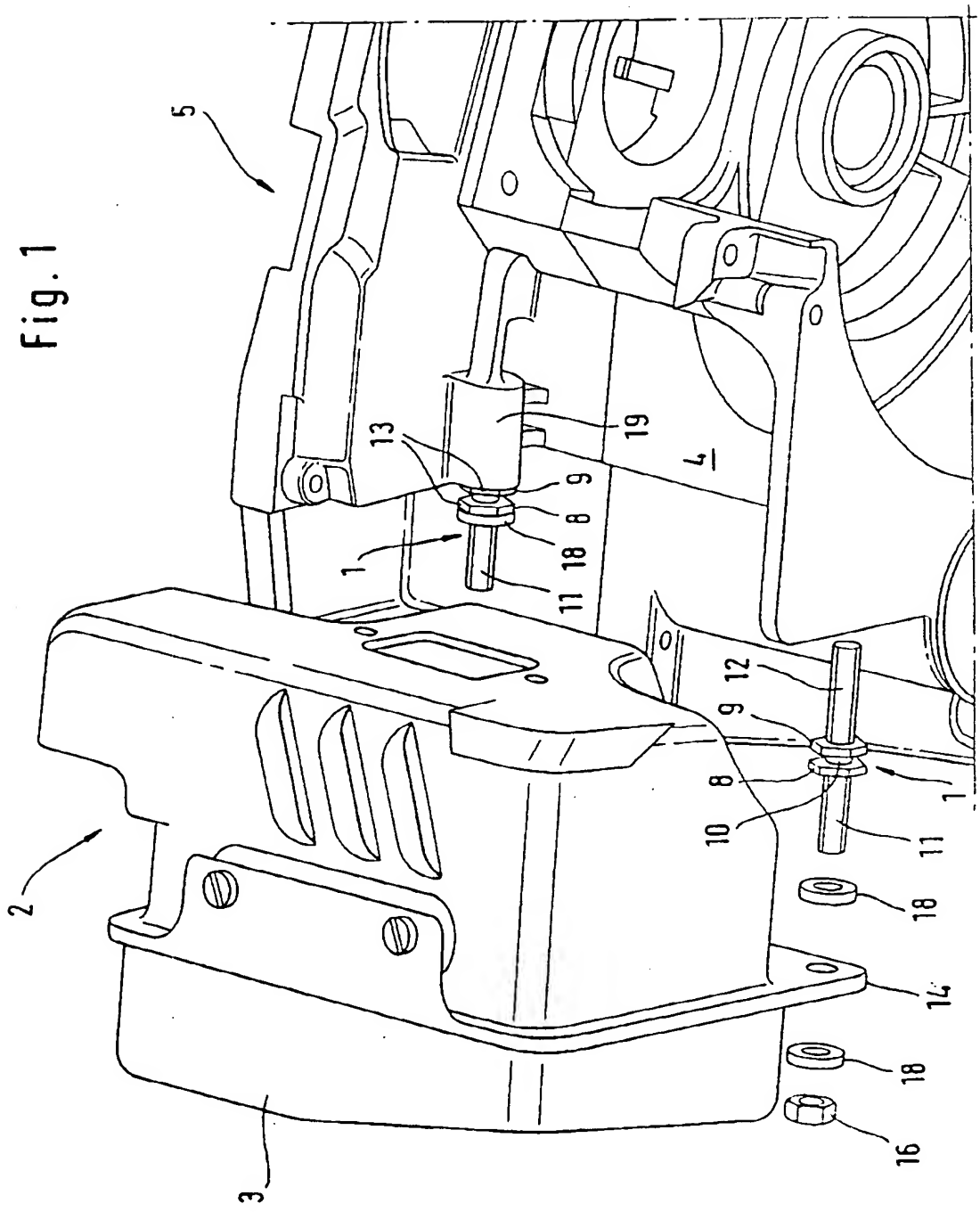
13. The attachment pin arrangement of claim 1, wherein said

attachment pin is made of steel.

Abstract of the Disclosure

The invention relates to an attachment pin (1) for fixing an exhaust-gas muffler (2) in an apparatus part (4) of a portable handheld work apparatus (5) driven by an internal combustion engine. The exhaust-gas muffler (2) includes especially an exhaust-gas catalytic converter (3). An at least partially exposed region (6) is provided with a cooling surface (7) and is on the attachment pin (1) between the exhaust-gas muffler (2) and the apparatus part (4).

Fig. 1



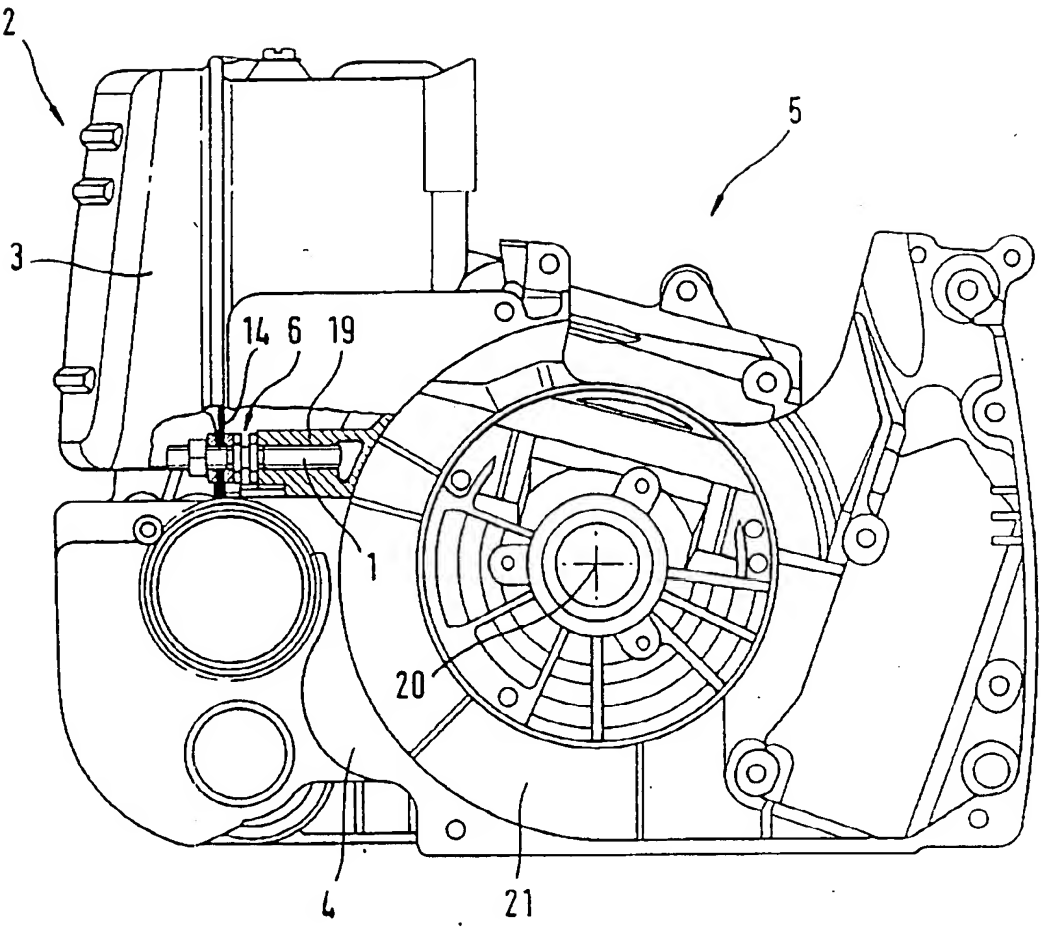


Fig. 2

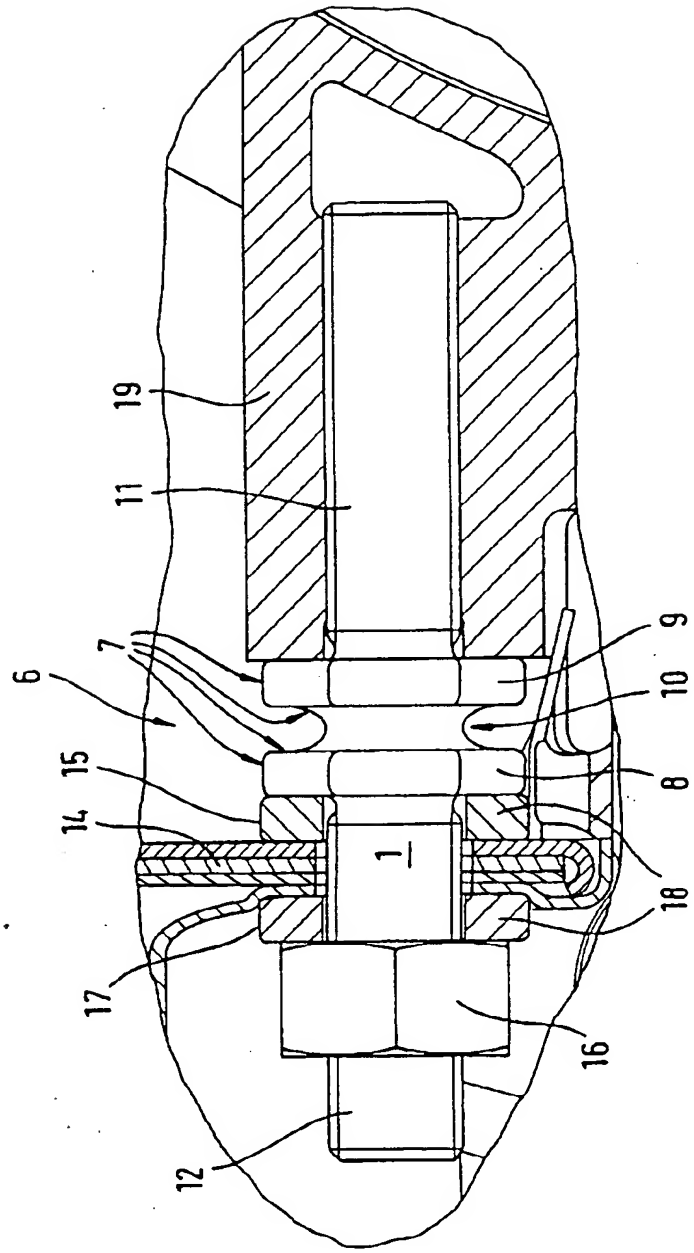


Fig.3

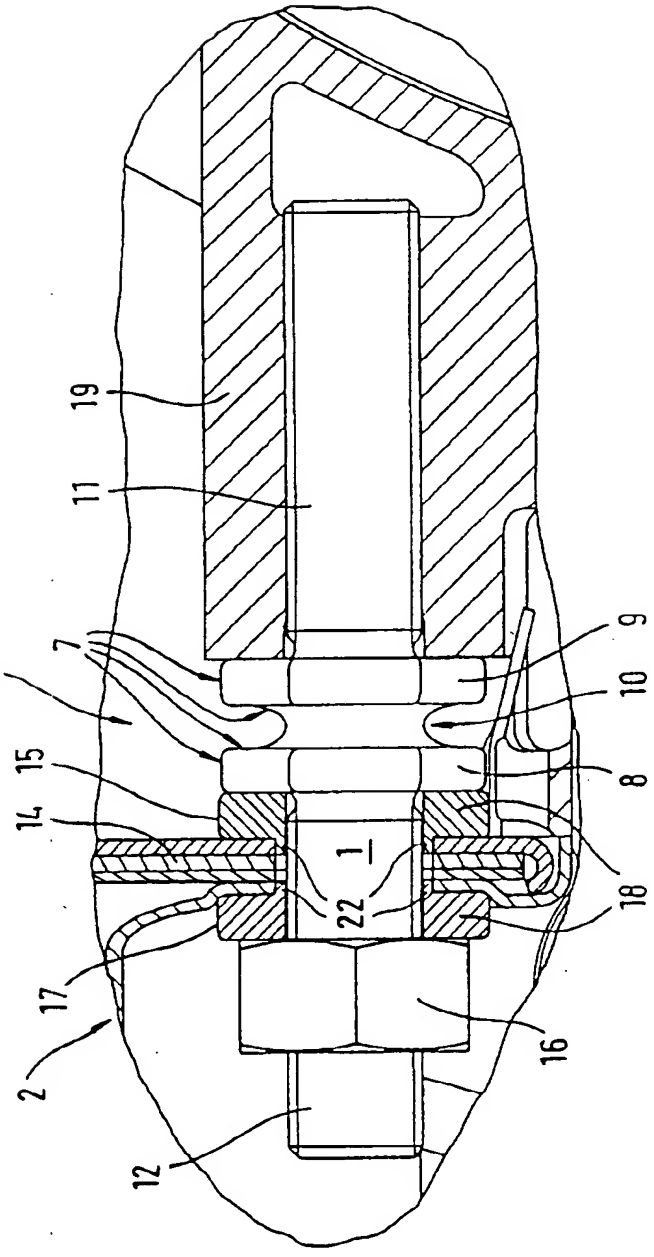


Fig. 4